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LESSONS FOR IMPROVED CARE (LIC)—A PRE-EMPTIVE RISK MANAGEMENT STRATEGY WHICH ENCOURAGES CONTINUOUS LEARNING IN CENTERS PERFORMING PERIPHERAL BLOOD AND BONE MARROW TRANSPLANTATION

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Healthcare providers in the UK (NHS) pay around $750 million a year in clinical negligence claims. The Yorkshire Blood and Bone Marrow Transplant Program undertakes 150 transplants annually. Whilst the host institution has a system for reporting serious adverse events, research suggests lessons can be learned from reporting *near miss* incidents that may result in poor quality care or ultimately in a catastrophic event. Lessons for Improved Care (LIC) is part of a wider Quality Strategy aimed at identifying risk and improving quality within transplantation through continuous learning. LIC builds on a government health department strategy (an organisation with a memory) by encouraging staff to use a reporting system that identifies episodes where quality is compromised. LIC involves completion of a pro-forma focusing on 3 areas: What happened? What immediate action was taken? What could be done to prevent re-occurrence? A pilot is ongoing within the Allogeneic Bone Marrow Transplant Unit (BMTU) to establish its suitability for implementation across the program. An LIC Champion was appointed from within the unit. All BMTU staff received a briefing about the strategy and training. During the pilot, 182 Lessons were reported and categorized (Table 1). The pattern of Lessons was analyzed and action plans were formulated to address issues raised. Pharmacy-related Lessons have resulted in altered prescribing procedures and better integration with the Pharmacy Team in development of treatment policies. Early problems identified with LIC included fear of blame and failure to complete the pro-forma. These issues were resolved through improved communication and training. Positive outcomes included better two-way communication and the implementation of revised procedures to ensure prevention of potentially major events. Human error is cited as the cause of failure in many systems, however, the fault usually lies within organizational systems and processes which, if addressed, would prevent the error or act as a safety-net. Systematic reporting of *near misses* is seen as an important early warning of serious problems. The YBMTP has, through a pre-emptive risk management strategy in the LIC system, led the way in analyzing organisational errors, learning from the processes to develop a systematic procedural approach to prevent recurrence and avoid major incidents.

Table 1.

CATEGORY	JULY 2005	AUGUST 2005
Transport	15	10
Specimen Issues	10	12
Facilities Issues	4	3
Pharmacy Issues	30	21
Medical/Nursing	18	15
Support Service Issues	9	8
Misuse of Equipment by Patient	0	5
Results Delayed	0	22
TOTAL LESSONS REPORTED	86	96

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EVALUATION OF FUNCTIONAL ABILITY AND SYMPTOMS POST AUTOLOGOUS TRANSPLANTATION

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Background: Following autologous transplantation, patients typically experience multiple physical, cognitive, and affective symptoms. These symptoms are associated with impaired function and decreased quality of life. Patient function typically is assessed using global measures of performance status. More comprehensive assessment of patients' physical function is needed to understand the relationship of function to symptoms, quality of life, and transplant outcomes. **Methods:** We recruited 20 patients with multiple myeloma or non-Hodgkin's lymphoma who were undergoing autologous transplantation. We collected symptom and functional ability data at 3 timepoints (prior to high dose chemotherapy, at nadir, and at 30 days post transplant). Nineteen physical, affective, and cognitive symptoms were assessed using the M. D. Anderson Symptom Inventory. Symptom-related interference in daily activities also was assessed. The patients' physical performance was measured using 4 tasks from a reliable and valid battery that assesses physical function in seated and standing positions. The tasks test both fine and gross motor functions and are measured on the basis of time or distance. The tests used were the sock test, belt tie, sit to stand, and the 6-minute walk. **Results and Conclusions:** Results of the functional assessments at the 3 timepoints and correlations of functional ability with symptom severity, interference, and quality of life will be reported. The relationship of patient function to transplant outcomes also will be discussed.

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IMPLEMENTATION OF ELECTRONIC SELF-REPORT ASSESSMENT-CANCER (ESRA-C): SYMPTOM AND QUALITY OF LIFE SCREENING/MONITORING IN TRANSPLANT AMBULATORY CARE

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Significance: Patients may present with several significant problems in a transplant clinic visit and it is time consuming for care providers to perform full assessments and evaluate the patient's concerns. The ESRA-C program provides the patient with means to easily report problems, and the care providers with quick review of the patient's priorities. **Purpose:** To evaluate feasibility of the web-based, ESRA-C program and randomized trial in the Seattle Cancer Care Alliance ambulatory HSCT service. **Theoretical Framework:** The Quality Health Outcomes Model; all patient outcomes are mediated by some aspect(s) of the health care system and/or patient characteristic(s). **Methods:** Clinician team members gave informed consent. Transplant patients were offered the opportunity to hear more about this trial by team RNs during a pre-treatment education session. Enrolled patients completed a baseline assessment prior to mobilization or conditioning therapy and transplant. The first assessment (T1) consists of the Symptom Distress Scale, the EORTC QLQ-C30, a pain intensity scale, and a depression scale known as the PHQ-9. All questionnaires are delivered via the Internet using a simplistic, touch screen interface on a wireless notebook computer. Approximately 4 weeks later, a second assessment (T2) is completed with the same questionnaires plus a 5 item query of self-perceived changes in quality of life status. Patient acceptability is measured at T2. A color graphic summary is generated for those patients randomized to the intervention group just prior to the patient/team visit. All enrolled clinician/patient visits are digitally audio-recorded. **Findings:** Since April 2005, of 63 clinicians approached, 58 enrolled (92%) and 5 declined. Of 56 eligible patients, 47 have enrolled (83%). Once initiated, all but 1 patient was able to complete the T1 assessment. Twenty-eight patients have completed T2. We will update the enrollment details and present the descriptive results from the acceptability measure. **Implications:** This successful implementation of a symptom and quality of life screening and monitoring trial builds the foundation of routine screening made pos-

sible and efficient through patient-centered technology. Early identification of symptomatology is paramount to comprehensive care of the transplant patient. **Funding:** NIH NR008726.

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USING THE "REPORT SHEET" AS A TOOL TO DEVELOP AND IMPROVE CRITICAL THINKING SKILLS IN HEMATOPOIETIC CELL TRANSPLANT NURSES

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Nurses caring for hematopoietic cell transplant (HCT) recipients must develop critical thinking skills to meet the complex needs of this patient population. HCT nurses must be able to accurately recognize problems, critically analyze data, intervene, evaluate efficacy, and finally, begin again if the intervention did not achieve the desired outcome. Synthesizing and communicating patient data is an example of critical thinking. We developed a comprehensive report sheet that focuses on the typical problems encountered in HCT recipients. The report sheet packages together all relevant assessments, problems and interventions as a tool to develop critical thinking skills. **Purpose:** Critical thinking is characterized by the cognitive skills of analyzing, applying standards, discriminating, information seeking, logical reasoning, predicting, and transforming knowledge (Scheffer Rubenfeld, 2000). To accurately assess, plan, intervene, and evaluate patient care, nurses must master critical thinking. Upon entering the workforce, it is the responsibility of the employer to develop this essential skill. At shift change and during the multidisciplinary team meeting, the nurse must communicate detailed assessments and plans of care. Verbal reports are an opportunity to examine a nurse's critical thinking. We believed that by improving the quality of report, the nurse's critical thinking skills would be developed with a beneficial impact on patient outcomes and communication within the HCT team. **Intervention:** The report sheet was restructured to include sections that triggered concrete data points including: patient diagnosis, type and day of transplant, assessments, problems and intervention strategies. **Evaluation:** Before the development of the structured report sheet, information presented by the nursing staff was often incomplete, disjointed, or outdated. The inability of the nursing staff to synthesize data and articulate problems in an intelligible way led to a poor understanding by other team members of the patient's current status, and hampered the development of a comprehensive care plan. Based on the assessments of the clinical nurse specialist and nurse managers, those nurses utilizing the new report sheet provide more accurate, complete, and succinct patient reports. Ultimately, we believe the comprehensive report sheet will foster the development of critical thinking skills.

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FOUNDATIONS OF PEDIATRIC BLOOD AND MARROW TRANSPLANTATION: A COMPREHENSIVE ORIENTATION AND REVIEW COURSE

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The Pediatric blood and marrow transplantation (BMT) core curriculum entitled Foundations of Pediatric Blood and Marrow Transplantation: A Comprehensive Orientation and Review Course is a collaborative effort between the Pediatric Blood and Marrow Transplant Consortium (PBMTC) Nursing Discipline and the Association of Pediatric Oncology Nurses (APON). The pediatric BMT core is published as a CD ROM educational curriculum through APON. The content is presented in Power Point™ lectures via a CD-ROM based format. The lectures are accompanied by notes and references for the instructors' use. The core curriculum covers the clinical and supportive care management of the pediatric transplant patient across the continuum of care. Major clinical topics that are addressed: rationale for treatment, acute complications, and short and long term follow-up. Each section has a set of objectives and test questions. A final exam is included so the text can be used for staff orientation and validation of learning. Guidelines for obtaining CEUs are included. This core will guide and educate staff in pediatric blood and marrow transplantation concepts, serve a standard resource for didactic instruction, and fulfill staff education requirement set forth by the Foundation for the Accreditation of Cellular Therapy (FACT). The primary audiences for this program are inpatient and outpatient nurses taking care of pediatric BMT patients including intensive care staff, specialty based pediatric and adult nurse practitioners and physicians assistants, nurse educators, referral centers, primary care practices, BMT coordinators, and clinical research associates. The program could also be marketed to secondary audiences such as oncologists, translators, social workers, pharmacists, patient-family support teams, and national BMT players such as third party payers. The history of developing the pediatric BMT core and techniques for teaching this core curriculum will be presented.

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SUPPORT FOR FAMILY CAREGIVERS DURING BMT

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Significance: Blood and marrow transplant (BMT) is a potentially curative therapy for patients with life-threatening illnesses. Over the last 10 years, family caregiving has become an essential aspect of BMT to support the patient emotionally and to provide assistance with physical care and symptom management. **Theoretical/Scientific Framework:** A conceptual Informal Caregiving Dynamics model derived from the literature identified commitment, expectations, and role negotiation as moving the caregiving relationship along an illness trajectory. **Problem and Purpose:** The purpose of this study was to refine the model of Informal Caregiving Dynamics by identifying important caregiver energy sources not currently in the model. The refined and validated model will give guidance in the development of supportive caregiver interventions. **Methods:** This was a qualitative, cross-sectional study. The study sample was 40 informal caregivers of patients undergoing BMT at a comprehensive cancer center in the south-central United States. The caregivers described their experiences 15–30 days after the BMT in single audiotaped dialogues. Analysis and identification of categories of energy sources and themes by the researcher were reviewed and confirmed by other researchers experienced in qualitative analysis, oncology nursing, informal caregiving, and BMT. **Data Analysis:** Descriptive statistics were used to describe the sociodemographic characteristics of the caregivers and the sociodemographic and disease/treatment characteristics of the patients. Exploratory descriptive analysis identified 3 new energy sources of caring for self, gaining insight, and connecting with others. **Findings and Implications:** Caring for self, gaining insight, and connecting with others support and enhance the previously identified energy sources of commitment and role negotiation and the refined energy source of expectation management in the Informal Caregiving Dynamics model. These energy sources suggest interventions such as providing short periods of respite, health maintenance and promotion, present-focused information, and spiritual support as methods of supporting and sustaining BMT family caregivers.

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IMPLEMENTATION OF A SYSTEM FOR ELECTRONIC DOCUMENTATION OF EDUCATION FOR PATIENTS/FAMILIES IN TRANSPLANT

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Topic: Implementation of electronic documentation of patient education establishes an effective mechanism for providing and recording teaching for patients/family members over time and across settings. **Purpose/Background:** Although patient/family teaching is regarded an essential component of transplant care knowing what individuals have been taught and what is comprehended often presents challenges. Implementation of a system to